

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

In the specification, paragraphs have been amended on pages 3, 4, and 5.

Claims 1, 12, 14, 16, 18, and 20 are currently being amended.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-23 are now pending in this application.

Objections to the Specification

The specification is objected to for containing minor informalities. The specification has been amended on pages 3, 4, and 5 to overcome these objections. The abstract is also objected to for containing a minor informality. Attached are an annotated copy of the abstract to show the amendment made to the abstract and a clean replacement copy of the amended abstract. Withdrawal of these objections is respectfully requested in light of these amendments.

Rejections under 35 U.S.C. § 112

Claims 12, 14, 16, 18, and 20 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. These claims have been amended. Withdrawal of these rejections is respectfully requested.

Rejection under 35 U.S.C. § 102

Claims 1, 3, 5, 7, and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,869,849 (Jou et al.). This rejection is respectfully traversed.

Amended claim 1 requires a light emitting diode that includes a semiconductor substrate, “a light-emitting region including an active layer provided between a first conductivity type cladding layer formed on the semiconductor substrate and a second conductivity type cladding layer,” a transparent conductive film, a first and second electrode, “a layer for preventing exfoliation of the transparent conductive film, the preventing layer being made of a compound semiconductor containing at least aluminum and located between the light-emitting region and the transparent conductive film, the preventing layer having a high carrier concentration,” and “an undoped layer or a low carrier concentration layer formed between the active layer and the second conductivity type cladding layer.”

Jou et al. teach a light emitting diode that includes a double hetero-structure of AlGaInP 530 that includes a p-type AlGaInP cladding layer 531, an active AlGaInP layer 532, and an n-type AlGaInP cladding layer 533. (See U.S. Patent No. 5,869,849 at col. 4, lines 11-28). However, Jou et al. does not teach “an undoped layer or a low carrier concentration layer formed between the active layer and the second conductivity type cladding layer.” Nor does Jou et al. teach a preventing layer that has “a high carrier concentration,” as required by amended claim 1. Therefore, Jou et al. does not teach all of the limitations required by amended claim 1. Withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 2, 4, 6, 8, and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jou et al. in view of U.S. Patent No. 6,495,862 (Okazaki et al.) and U.S. Pub. No. 2005/0095768 (Tsuda et al.). This rejection is respectfully traversed. Claims 2, 4, 6, 8, and 10 depend upon claim 1. As noted above, Jou et al. fails to disclose all of the limitations required by amended claim 1. Okazaki et al. and Tsuda et al. fail to remedy the deficiencies of Jou et al. Withdrawal of this rejection is respectfully requested.

Claims 11, 19, 21, and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jou et al. in view of the Journal of Applied Physics (Temkin et al.). This rejection is respectfully traversed. Claims 11, 19, 21, and 23 depend upon claim 1. Temkin et al. fails to remedy the deficiencies of Jou et al. Withdrawal of this rejection is respectfully requested.

Claim 13 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Jou et al. and Temkin et al. as applied to claims 1, 3, 5, 7, 9, 11, 19, 21, and 23 above, and further in view of Okazaki et al. and Tsuda et al. This rejection is respectfully traversed. Claim 13 depends upon claim 1. Okazaki et al. and Tsuda et al. fail to cure the deficiencies of Jou et al. and Temkin et al. Withdrawal of this rejection is respectfully requested.

Claims 15 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jou et al. and Temkin et al. as applied to claims 1, 3, 5, 7, 9, 11, 19, 21, and 23 above, and further in view of Okazaki et al. This rejection is respectfully traversed. Claims 15 and 17 depend upon claim 1. Okazaki et al. fails to cure the deficiencies of Jou et al. and Temkin et al. Withdrawal of this rejection is respectfully requested.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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